

21. For Freundlich adsorption isotherm, a plot of $\log(x/m)$ (y-axis) and $\log p$ (x-axis) gives a straight line. The intercept and slope for the line is 0.4771 and 2, respectively. The mass of gas, adsorbed per gram of adsorbent if the initial pressure is 0.04 atm, is $______ \times 10^{-4}g$.
($\log 3 = 0.4771$)

Official Ans. by NTA (48.00)

22. A solution of phenol in chloroform when treated with aqueous NaOH gives compound P as a major product. The mass percentage of carbon in P is $______$. (to the nearest integer)
(Atomic mass : C = 12; H = 1; O = 16)

Official Ans. by NTA (69.00)

23. If the solubility product of AB_2 is $3.20 \times 10^{-11} M^3$, then the solubility of AB_2 in pure water is $______ \times 10^{-4} mol L^{-1}$. [Assuming that neither kind of ion reacts with water]

Official Ans. by NTA (2.00)

24. The rate of a reaction decreased by 3.555 times when the temperature was changed from $40^\circ C$ to $30^\circ C$. The activation energy (in $kJ mol^{-1}$) of the reaction is $______$.

Take; $R=8.314 J mol^{-1} K^{-1}$ $\ln 3.555 = 1.268$

Official Ans. by NTA (100.00)

25. The atomic number of Unnilunium is $______$.

Official Ans. by NTA (101.00)